



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,660	02/25/2004	Michael Ioannou	03-IMP-028	2845
29393	7590	12/12/2005	EXAMINER	
ESCHWEILER & ASSOCIATES, LLC NATIONAL CITY BANK BUILDING 629 EUCLID AVE., SUITE 1210 CLEVELAND, OH 44114			JOHNSTON, PHILLIP A	
			ART UNIT	PAPER NUMBER
			2881	

DATE MAILED: 12/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

8A

<b>Office Action Summary</b>	<b>Application No.</b> 10/786,660	<b>Applicant(s)</b> IOANNOU ET AL.	
	<b>Examiner</b> Phillip A. Johnston	<b>Art Unit</b> 2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Detailed Action***

1. This Office Action is submitted in response to RCE / Amendment filed 4-08-2004, wherein claim 28 has been amended and claim 29 has been added. Claims 1-29 are pending.

2. The examiner agrees with applicants remarks filed 9-22-2005, and withdraws the §102 and §103 rejections of the previous Office Action. A second non-final Office Action is included below.

***Claims Rejection - 35 U.S. C. 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

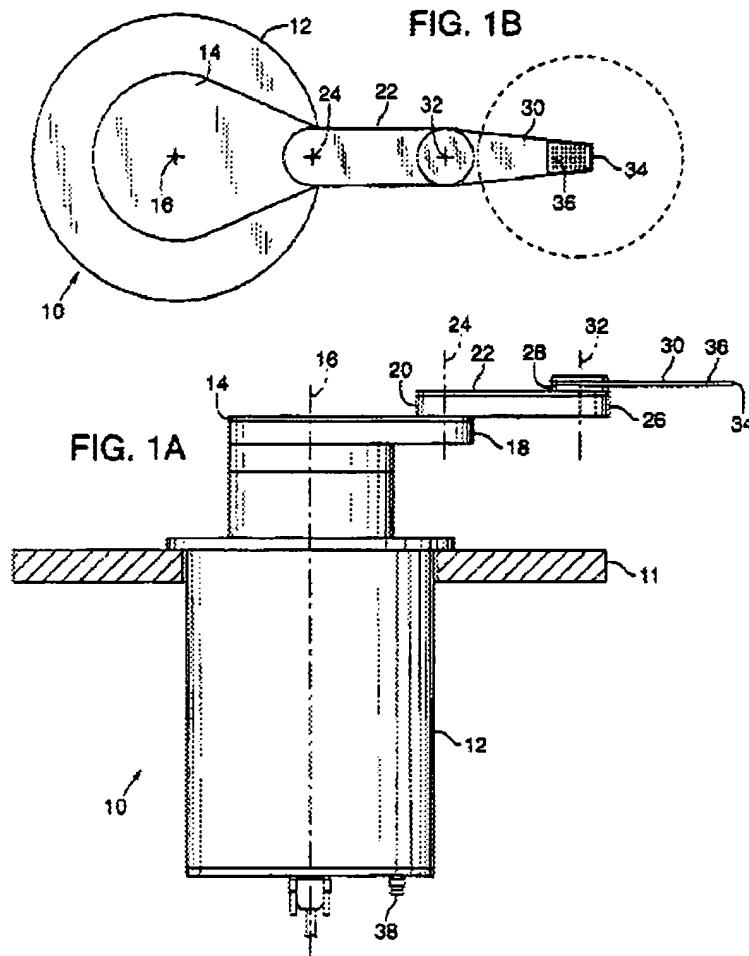
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1,2,6-8,10,11,15-23, and 25-27 are rejected under 35 U.S.C.102

(b) as being clearly anticipated by Bacchi, U.S. Patent No. 5, 741,113.

Bacchi (113) discloses the following;

(a) A robot 20 that includes a base 12 with first arm 14, second arm 22, and hand effector (wafer holder) 30. Where the first and second concentric drive motors 50,52 operate in response to controller 54 such that continuous rotation about the shoulder axis 16, elbow axis 24, and wrist axis 32 is accomplished, as recited in claims 1 and 23. See Column 4, line 19-65; and Figures 1A and 1B below;



(b) Motor controller 54 can be programmed to provide a desired travel path, including linear displacement of hand 30 in both directions using a servomechanism, amplifier 182 and encoders 106 and 108, while rotating motors 50 and 52 in the same and opposite directions, as recited in claims 1, 2-8,10-13, and 17-23. See Column 8, line 24-52.

It is implied herein that, control of angular positions of the respective motors 50 and 52 in accordance with Bacchi (113) is equivalent to controlling rotational velocity, as recited in claims 12,13, and 17-19.

***Claims Rejection – 35 U.S.C. 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-5, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,741,113 to Bacchi, in view of Seraji U.S. Patent No. 5,737,500.

Bacchi (113) discloses nearly all the limitations of claims 3-5, and 14 but fails to teach the use of a base translation mechanism and a prismatic joint. However, Seraji (500) discloses a robot arm with a prismatic joint mounted on a mobile platform for translating the base. See Column 19, line 46-56; and Figure 3 below.

Therefore it would have been obvious to one of ordinary skill in the art that the robot apparatus and method of Bacchi (113) can be modified to use the mobile platform of Seraji (500), to provide an additional translational degree-of-freedom that can be treated as a prismatic joint. Therefore, the complete manipulator system has eight independent joint degrees-of-freedom with two degrees-of-redundancy.

7. Claims 9 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,741,113 to Bacchi, in view of Sieradzki, U.S. Patent Pub. No. 2003/0123958.

Bacchi (113) discloses nearly all the limitations of claims 9 and 24 but fails to teach the use of an electrostatic chuck. However, Sieradzki (958) discloses a wafer handling robot having an electrostatic chuck, as recited in claims 9 and 24. See paragraph [0046].

Therefore it would have been obvious to one of ordinary skill in the art that the robot apparatus and method of Bacchi (113) can be modified to use the electrostatic chuck of Sieradzki (958), to provide a chuck that applies a clamping voltage to ensure secure clamping of the wafer, so as to traverse the wafer through a ribbon-shaped or scanned ion beam to accomplish uniform ion implantation.

### ***Conclusion***

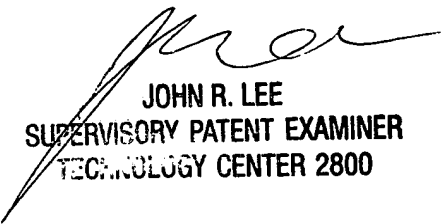
8. Any inquiry concerning this communication or earlier communications should be directed to Phillip Johnston whose telephone number is (571) 272-2475. The examiner can normally be reached on Monday-Friday from 6:30 am to 3:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor John Lee can be reached at (571) 272-2477. The fax phone number for the organization where the application or proceeding is assigned is 571 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.  
For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should  
you have questions on access to the Private PAIR system, contact the Electronic  
Business Center (EBC) at 866-217-9197 (toll-free).

PJ

December 7, 2005



JOHN R. LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800